

(19)



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(11)

EP 0 770 967 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
30.12.1998 Bulletin 1998/53

(51) Int. Cl.⁶: **G06F 17/60**

(43) Date of publication A2:
02.05.1997 Bulletin 1997/18

(21) Application number: 96202971.6

(22) Date of filing: 24.10.1996

(84) Designated Contracting States:
DE FR GB

(30) Priority: 26.10.1995 US 5860
30.10.1995 US 8101
27.02.1996 US 12327
30.07.1996 US 22787

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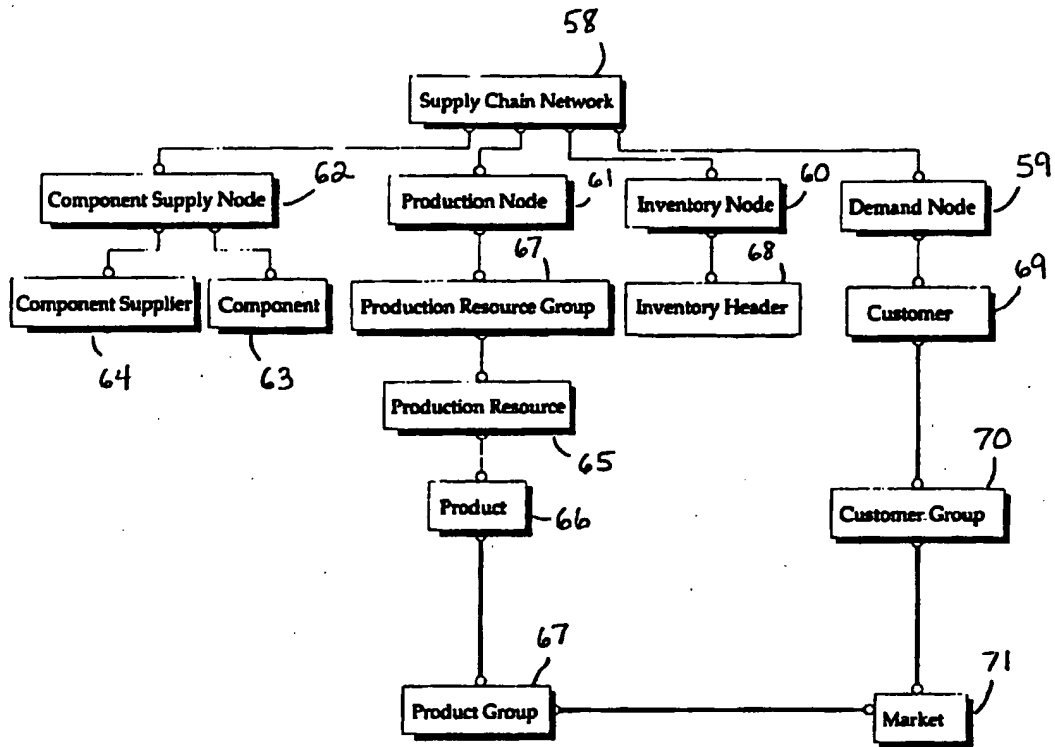
(54) Decision support system for the management of an agile supply chain

(57) A decision support system for the management of an agile supply chain that provides an architecture including a server side and a client side. The server side includes a decision support system database that interfaces with model engine that performs analysis of the data to support planning decisions. The server side includes a server manager that coordinates requests for service and information. The client side includes decision frames that present the various view points available in the system to the users. A frame manager coordinates the requests from decision support frames to access the needed data and models. The decision support frames provide a view into supply chain and integrate analytical models responsive to the view point of a business process such as demand management. The frames include a supply management frame, a demand management frame, a vendor managed replenishment frame, a Planning, Sales and Inventory planning frame and a distribution network design frame. The model engine includes a component procurement policy development module, a finished goods distribution network design module, an aggregate production

planning module, a finished goods inventory management module, a sales forecasting and planning module, a market data analysis module, a vendor managed replenishment module and various utilities such as generic linear programming solvers and statistical analysis routines. The system also includes a demand and supply reconciliation process reconciling production, sales and inventory and reconciling a top-down forecast with a bottom-up forecast where an expert based model is used for the bottom-up forecast. A capacity planning process determines the feasibility of a capacity plan responsive to supply constraints. A vendor managed replenishment process plans inventory replenishment analysis and periods responsive to predicted sales and supply constraints. A scenario management process associated with all frames enables the user to analyze different hypothetical scenarios for comparison of business plans. The frame manager includes a system integrator and a functional integrator. A database management system manages the supply and maintenance of information needed by the modeling processes through the frame manager. A domain

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management process limits data available to said frames responsive to a user selection.



Structural Elements in the DSS Database for the Manufacturing Supply Chain

FIG. 5



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EUROPEAN SEARCH REPORT

Application Number
EP 96 20 2971

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
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| Place of search THE HAGUE | | Date of completion of the search 28 October 1998 | Examiner Skulikaris, I |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p> | | | |

EPO FORM 1503 03 82 (P04C01)



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EUROPEAN SEARCH REPORT

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| THE HAGUE | | 28 October 1998 | Skulikaris, I |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone</p> <p>Y : particularly relevant if combined with another document of the same category</p> <p>A : technological background</p> <p>O : non-written disclosure</p> <p>P : intermediate document</p> <p>T : theory or principle underlying the invention</p> <p>E : earlier patent document, but published on, or after the filing date</p> <p>D : document cited in the application</p> <p>L : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p> | | | |

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